PATENT COOPERATION TREATY

PCT

TRANSLATION INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

PCT114SUN		FOR FURTHER A	ACTION	See Form PCT/IPEA/416				
International application No. International		International filing d	ate (day/month/year)	Priority date (day/month/year)				
PCT/JP2004/018854 10.12		10.12.200	4	25.12.2003				
	ional Patent Classification (IPC) or							
		B01J35/02	(2006.01),	B01J37/00(2006.01)				
	B32B9/00 (2006.01)							
	Applicant TAIYO KOGYO CORPORATION							
1.	This report is the international n	reliminary examination re	port established by th	is International Preliminary Examining Authority				
1.	 This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 							
2.	This REPORT consists of a total of 6 sheets, including this cover sheet.							
3.	This report is also accompanied by	y ANNEXES, comprising	:					
	a. (sent to the applicant	and to the International Bi	ureau) a total of 29	sheets, as follows:				
	I I			n amended and are the basis for this report and/or Rule 70.16 and Section 607 of the Administrative				
	sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental							
	Box.							
	b (sent to the Internatio	nal Bureau only) a total of	(indicate type and nun	nber of electronic carrier(s))				
	related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section							
	802 of the Administrative Instructions).							
4.	This report contains indications re	elating to the following iter	ms:					
	Box No. I Basis of	f the report						
Box No. II Priority								
	Box No. III Non-est	ablishment of opinion with	n regard to novelty, inv	entive step and industrial applicability				
	Box No. IV Lack of unity of invention							
	Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement							
	Box No. VI Certain	documents cited						
	Box No. VII Certain	defects in the international	application					
	Box No. VIII Certain	observations on the interna	ational application					
Date of submission of the demand		Date of completion of	this report					
Name and mailing address of the IPEA/JP			Authorized officer					
Facsimile No.			Telephone No.					

International application No.

PCT/JP2004/018854

Box	k No. I	Basis of the report		
1.	With	n regard to the language, this report is based on:		
	\boxtimes	the international application in the language in which it was	as filed	
		the translation of the international application into translation furnished for the purposes of:		, which is the language of a
		international search (Rule 12.3(a) and 23.1(b))		
		publication of the international application (Rule 12	.4(a))	
		international preliminary examination (Rule 55.2(a)		
2.	recei	n regard to the elements of the international application, thi iving Office in response to an invitation under Article 14 or report):		
		the international application as originally filed/furnished		
	$\overline{\boxtimes}$	the description:		
		pages 1-22		as originally filed/furnished
			received by this Authority on	
			received by this Authority on	<u>. </u>
	\square			
		the claims:		
			as amended (together with an	
		nos.*		
		nos.*	received by this Authority on	
	\bowtie	the drawings:		
		sheets fig. 1-10		as originally filed/furnished
		sheets*	received by this Authority on	
		sheets*	received by this Authority on	
		a sequence listing and/or any related table(s) – see Supple	mental Box Relating to Sequence Listing.	
3.	\boxtimes	The amendments have resulted in the cancellation of:		
		the description, pages		
		the claims, nos. 12,17		
		the drawings, sheets/figs		
		the sequence listing (specify):		
		any table(s) related to sequence listing (specify):		
	\square	This report has been established as if (some of) the amer	ndments annexed to this report and listed be	elow had not been made, since
4.		they have been considered to go beyond the disclosure as		Rule 70.2(c)).
		the description, pages3,3/1,4,4/1,5,5/1,	6,6/1, 22	
		the claims, nos. 1-5,10,11,13-16,18-23		
		the drawings, sheets/figs		
		the sequence listing (specify):		
		any table(s) related to sequence listing (specify):		
*	If ite	m 4 applies, some or all of those sheets may be marked "su	perseded."	

Box			rticle 35(2) with regard to novelty, inventive step or industrial applicability; poorting such statement	
1.	Statement			
	Novelty (N)	Claims	1-11, 13-16, 18-21	YES
		Claims		_ NO
	Inventive step (IS)	Claims		YES
		Claims	1-11, 13-16, 18-21	_ NO
	Industrial applicability (IA)	Claims	1-11, 13-16, 18-21	_ YES
		Claims		_ NO

2. Citations and explanations (Rule 70.7)

Document 1: JP 2002-282703 A (Toray Industries, Inc.), 02
October 2002, claims, paragraphs [0005] to
[0025], examples, drawings

The inventions set forth in claims 1 to 11, 13 to 16 and 18 to 21 do not involve an inventive step in the light of document 1 cited in the international search report.

Document 1 indicates that a photocatalystcontaining compact is laminated onto a sheet-like fiber
structure for use (paragraph [0021]), and further
indicates that because it is common for said fiber
structures to be fabricated by means thermal bonding, it
is preferable for the photocatalyst-containing support
layer to be configured from a thermoplastic synthetic
resin (paragraphs [0019] and [0022]); therefore, it would
have been easy for a person skilled in the art to
conceive of thermally bonding the photocatalystcontaining support layers.

In addition, it is normal for the bonding strength to be compromised if the content of the photocatalyst is too high, and it is also normal for the photocatalytic action to be compromised if the content of the

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
photocatalyst is too low; therefore, it would have been
easy for a person skilled in the art to conceive of
delimiting an optimal range for the content of the
photocatalyst.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box I.4

The Amendment Forms Dated 24 October 2005

(1)

The amendments to claims 1 and 2, which stipulate that the "bonding surfaces are formed from the abovementioned apatite-coated photocatalyst particles and a thermally fusible material," go beyond the scope of the disclosure in the international application as originally filed.

(2)

The embodiments only set forth a feature wherein the bonded sections of the photocatalyst sheets that comprise a prescribed substrate, which is configured by combining a polyester fiber base material and a coating layer of a polyvinyl chloride resin (embodiments 1 to 5) or by combining a glass fiber fabric base material and a coating layer of a PTFE or FEP (embodiments 6 to 10), a prescribed coating layer, which is coated onto both surfaces of said substrate, and a photocatalystcontaining layer, which is coated onto only one surface of said coating layer, are delaminated at a rate of 50 mm/min. Therefore, the description as originally filed does not set forth a feature wherein photocatalyst sheets comprising a photocatalyst-containing layer that is provided directly to the substrate (claims 3, 15 and 18 to 21) or photocatalyst sheets comprising a substrate, a coating film layer provided to one surface or both surfaces of the substrate, and a photocatalyst-containing

Supplemental Box

layer coated upon the coating film layer that was provided on one surface of the substrate or upon the coating film layer that was provided on both surfaces of the substrate (claims 4, 15 and 18 to 21) are subjected to a delamination test. Likewise, the description as originally filed does not set forth a feature wherein photocatalyst sheets that comprise base materials or resins other than those set forth in the embodiments are subjected to a delamination test at a rate of 50 mm/min. Consequently, the amendments to claims 3, 4, 15 and 18 to 21 go beyond the scope of the disclosure in the international application as originally filed.

The Amendment Forms Dated 20 April 2006

The description as originally filed does not set forth a feature wherein photocatalyst sheets that comprise a substrate configured from synthetic fibers or inorganic fibers other than those set forth in the embodiments and/or a coating layer configured from another resin or rubber (claims 1, 3, 5 to 11, 13, 14 and 22) are thermally bonded and then delaminated at a delamination rate of 50 mm/min. Furthermore, the disclosures in claims 2, 4, 15, 16, 18 to 21 and 23 cannot be said to exclusively signify that the photocatalyst-containing layers are thermally bonded. In addition, the embodiments do not mention that the fluororesin is selected from among PTFE, FEP and PFA. Consequently, the amendments to claims 1 to 11, 13 to 16 and 18 to 23 go beyond the scope of the disclosure in the international application as originally filed.